

### **REMARKS**

The Office Action dated June 21, 2007 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 18-35 are submitted for reconsideration.

Claims 18, 21, 26-29 and 32-35 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,708,033 to Linkola (hereinafter Linkola) in view of U.S. Patent No. 5,924,027 to Valentine (hereinafter Valentine) and U.S. Patent Publication No. 2003/0157942 to Osmo (hereinafter Osmo). The Office Action took the position that Linkola teaches each and every element recited in claims 18, 21, 26-29, and 32-35, except for wherein responsive to the user equipment not currently being connected in the network, the location of the user equipment is determined in dependence on the stored connection information for the user equipment, the location of the user equipment is determined in dependence on the last stored connection information for the user equipment. Therefore, the Office Action combined the teachings of Linkola with the teachings of Valentine and Osmo yield all of the elements of claims 18, 21, 26-29, and 32-35. The rejection is traversed as being based on references that do not teach or suggest each element of claims 18, 21, 26-29 and 32-35.

Independent claim 18, upon which claims 19-28 depend, recites a method in a communication system for providing a location service with geographical location information associated with a user equipment capable of communicating with the communication system. The method includes storing connection information identifying

a connection of the user equipment in the communication system. The method also includes determining whether the user equipment is currently unreachable in the network. If the user equipment currently unreachable in the network, the location of the user equipment is determined in dependence on the last stored connection information for the user equipment and wherein the connection information includes a service area identity or a cell global identity. The method further includes translating the connection information into geographical coordinates.

Independent claim 29, upon which claims 30-34 depend, recites a communication system including a location server for providing geographical location information associated with a user equipment capable of communicating with the communication system. The communication system also includes a network element for storing connection information identifying a connection of the user equipment in the communication system and for determining whether the user equipment is currently unreachable in the network. Responsive to a request from the location server for location information, if the user equipment is currently unreachable in the network, the network element provides the location server with details of the connection information last stored for the user equipment, the connection information including a service area identity or a cell global identity, and wherein the location server translates the connection information into geographical coordinates.

Claim 35 recites a communication system including providing means for providing geographical location information associated with a user equipment capable of

communicating with the communication system. The system also includes storing means for storing connection information identifying a connection of the user equipment in the communication system and for determining whether the user equipment is currently unreachable in the network. Responsive to a request from the providing means for location information, if the user equipment is currently unreachable in the network, the storing means provides the providing means with details of the connection information last stored for the user equipment, the connection information including a service area identity or a cell global identity. The providing means translates the connection information into geographical coordinates.

Applicants submit that the cited combination of references fail to teach or suggest the combination of elements recited in any of the presently pending claims

Linkola teaches a system for changing the service profile of a mobile subscriber including a location part, an evaluation part, and a subscriber connection exchange part. A home location register contains individual subscriber connections, which have a different service profiles. The location part finds out the location of the mobile station in the network and to give location information to the evaluation part, which checks if the location information has changed compared with the location information received earlier. If the information has changed, it searches the memory for the corresponding location information and compares the connection information in the record with the current connection information. If the connection information is identical, the process remains waiting for new location information. If the connection information is different,

the evaluation logic deduces that the connection must be exchanged for a new one and a connection exchange operation must be started.

Valentine discloses an improved cellular communications system and method which routes incoming calls to those subscribers who do not answer their page. The incoming call is routed to one of a list of alternate numbers, such as a home or work number in a public telephone system. Based upon the last known location of the subscriber within the cellular system, a particular list of such alternate numbers is tried in an effort to contact the subscriber outside the cellular network. Different lists are utilized depending upon the subscriber's last known location. In a first embodiment of the present invention, the various lists are stored in a home location register for the cellular system which forwards a particular list to the mobile switching center servicing the subscriber. In a second embodiment of the present invention, the particular list is stored within and forwarded by a service control point within an intelligent network

Osmo discloses a method of providing location dependent information in a communications system. The method includes the steps of: providing information identifying the location of a first station; sending said location information to a first element, the first element determining a second element based on the location information; and the second element providing geographic information relating to the location information. See at least the Abstract of Osmo.

Applicants submit that the combination of Linkola, Valentine and Osmo fails to teach or suggest each element of the presently pending claims. Each of claims 18, 29 and

35, in part, recites determining whether the user equipment is currently unreachable in the network, wherein if the user equipment is currently unreachable in the network, the location of the user equipment is determined in dependence on the last stored connection information for the user equipment. As acknowledged in the Office Action, Linkola does not teach or suggest this feature.

As noted above, Linkola discloses a system for changing a "service profile" of a mobile subscriber. A service profile is a record of the services that a subscriber has chosen to pay for and can be provided by the operator of the system. See Col. 3, line 63 to Col. 4, line 7. The system in Linkola allows the service profile to be changed automatically, depending on the location of the subscriber. See Col. 5, line 41-45. The system in Linkola includes a location part that provides location information on the mobile station, an evaluation part that determines if the location has changed compared to earlier information, and a connection exchange part that updates the service profile.

The Office Action alleged that it would be obvious to modify Linkola to include the feature of determining whether the user equipment is currently unreachable in the network, wherein if the user equipment is currently unreachable in the network, the location of the user equipment is determined in dependence on the last stored connection information for the user equipment, as recited in the pending claims. Specifically, the Office Action alleged that it would have been obvious to include the features from Valentine "in order to improve cellular communications system and method".

However, Applicants submit that there would be no technical reason to modify the system of Linkola to include the determining feature recited in the present claims. As previously noted, Linkola is only concerned with updating the service profile for a user. If a user in Linkola is unreachable in the network, then the user is inherently unable to make use of any services. If the user cannot make use of any services, then the service profile for the user is redundant. Therefore, the system disclosed in Linkola would not use or care about the last stored connection information if the mobile station is unreachable.

There are no circumstances in which the system in Linkola would use location information in the case that the mobile station is unreachable in the network. This is particularly the case because the system in Linkola is implemented on the subscriber identity module (SIM) installed in the mobile station itself. See Col. 6, line 52-55. Therefore, if the mobile station is unreachable, it would be unable to communicate with the network and the system of Linkola would not operate at all.

Applicants therefore submit that neither Linkola nor Valentine provides no teaching, suggestion or motivation for the inclusion of the determining feature. One skilled in the art would readily appreciate the technical reasons why the determining feature of the presently pending claims would not make sense for the system in Linkola. Hence, the Applicants submit that one skilled in the art would not combine the teachings of Linkola and Valentine.

Each of the pending claims also recites, in part, translating the connection information into geographical coordinates. There is no reason why one skilled in the art

would incorporate translating the connection information into geographical coordinates in the system of Linkola. As stated above, the system of Linkola is only concerned with the updating of service profiles based on location. The service profiles relate to the services available in the mobile communication system. Therefore, the locations of interest to Linkola are locations in the network itself. See Col. 5, line 30-32. The network location information is sufficient for Linkola, and there is no advantage in translating this into geographical coordinates. Hence, there is also no teaching, suggestion or motivation to include translating the connection information into geographical coordinates in Linkola. Therefore, it would not be obvious for one skilled in the art to combine Linkola and Osmo in an effort to translate the connection information into geographical coordinates in the system of Linkola. Therefore, Applicants respectfully request that the rejection under 35 U.S.C. 103(a) be withdrawn because neither Linkola, Valentine nor Osmo, whether taken singly or combined, teaches or suggest the combination of features recited in claims 18, 29 and 35, and hence dependent claims 21, 26-28 and 32-34 thereon.

Claims 22, 23, 24 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Linkola in view of Valentine and Osmo and further in view of Official Notice. The Office Action took the position that Linkola, Valentine and Osmo teach each and every element recited in claims 22, 23, 24 and 25, except for storing the connection information in a radio network controller of the communication system or in a mobile switching center of the communication system or in a GPRS support node of the communication system or in a serving mobile location center of the communication

system. However, the Office Action alleged that storing the connection information in a radio network controller of the communication system or in a mobile switching center of the communication system or in a GPRS support node of the communication system or in a serving mobile location center of the communication system are known in the art. Therefore, according to the Office Action, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Linkola, Valentine and Osmo to provide the method as claimed. Applicants traverse the rejection and respectfully submit that the cited combination of references, when taken alone or in combination, fails to teach, show, or suggest each and every limitation recited in claim 18, upon which claims 22, 23, 24 and 25 depend.

Applicants submit that the Office Action has provided no proof that connection information, as recited in claims 22, 23, 24 and 25, is known to those skilled in the art. Specifically, the Office Action has provided no proof that connection information including a service area identity or a cell global identity, as recited in claim 18, is known to one skilled in the art to be stored in a radio network controller of the communication system or in a mobile switching center of the communication system or in a GPRS support node of the communication system or in a serving mobile location center of the communication system. Thus, Applicants traverse the allegation made by the Office Action that it is known to those skilled in the art that connection information is to be stored in a radio network controller of the communication system or in a mobile switching center of the communication system or in a GPRS support node of the



communication system or in a serving mobile location center of the communication system, as recited in claims 22, 23, 24 and 25.

Furthermore, as presented above, the cited references of Linkola, Valentine and Osmo fails to teach or suggest why one skilled in the art would modify Linkola to determine whether the user equipment is currently unreachable in the network, wherein if the user equipment is currently unreachable in the network, the location of the user equipment is determined in dependence on the last stored connection information for the user equipment, as recited in claim 18, upon which claims 22, 23, 24 and 25 depend. Therefore, Applicants respectfully request that the rejection under 35 U.S.C. 103(a) be withdrawn because neither Linkola, Valentine nor Osmo, whether taken singly or combined, teaches or suggest the combination of features recited in claim 18 and hence dependent claims 22, 23, 24 and 25 thereon.

Claims 19, 20, 30 and 31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Linkola in view of Valentine and Osmo and further in view of U.S. Patent No. 6,603,976 to Amirijoo. The Office Action took the position that Linkola, Valentine and Osmo teach each and every element recited in claims 19, 20, 30, and 31, except for the location service being provided by a gateway mobile location center. However, the Office Action combined the teachings of Linkola, Valentine, Osmo and Amirijoo as teaching this feature, and as such, the Office Action concluded that it would have been obvious to one of ordinary skill in the art to have combined the teaching of the references to generate claims 19, 20, 30, and 31. Applicants traverse the rejection and

respectfully submit that the cited combination of references, when taken alone or in combination, fails to teach, show, or suggest each and every limitation recited in claims 18 and 29, upon which claims 19, 20, 30, and 31 depend.

Linkola, Valentine and Osmo are discussed above. Amirijoo teaches a wireless communications system capable of delivering Time Of Arrival (TOA) positioning data to at least one externally operated and maintained requesting agent, including a gateway to the external agent, which provides an interface to the requesting agent.


Amirijoo does not cure the deficiencies of Linkola, Valentine and Osmo, as outline above. Specifically, Amirijoo fails to teach or suggest why one skilled in the art would modify Linkola to determine whether the user equipment is currently unreachable in the network, wherein if the user equipment is currently unreachable in the network, the location of the user equipment is determined in dependence on the last stored connection information for the user equipment, as recited in claims 18 and 29, upon which claims 19, 20, 30, and 31 depend. Therefore, Applicants respectfully request that the rejection under 35 U.S.C. 103(a) be withdrawn because neither Linkola, Valentine, Osmo nor Amirijoo, whether taken singly or combined, teaches or suggest the combination of features recited in claims 18 and 29, and hence dependent claims 19, 20, 30, and 31 thereon.

As noted previously, claims 18-35 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 18-35 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

  
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